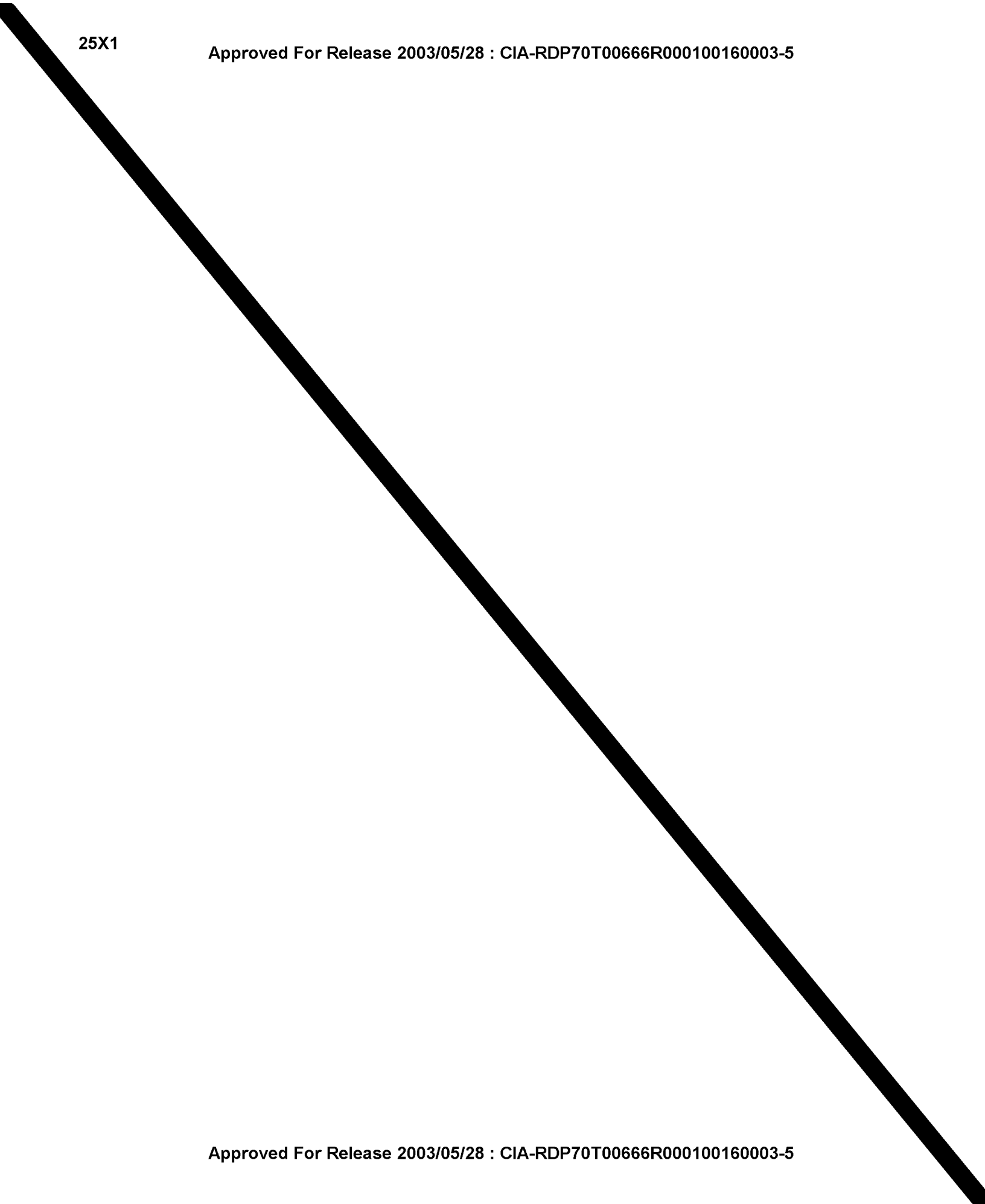

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1 NOV 1963

MEMORANDUM FOR: Deputy Director (Intelligence)

SUBJECT: Derivation of the Cost of Mining Gold in the USSR

1. This is in response to your recent request asking us to explain how we have obtained the approximate cost for mining gold in the USSR.

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GROUP 1
Excluded from automatic downgrading and declassification

Year	Cost Per Gram (Old Rubles)	Cost Per Troy Ounces a/ (Old Rubles)	Cost Per Troy Ounce b/ (New Rubles)
1955	25.67	795.77	79.58
1956	25.00	775.00	77.50
1957	23.75	736.25	73.63
1958	n. a.		
1959	n. a.		
1960	20.00	620.00	62.00
1961 (Plan)	19.79	613.49	61.35

a. 31 grams equal 1 troy ounce.
b. Old rubles are converted to new rubles at the official conversion ratio of 10 to 1.

4. The cost of producing gold in 1963 probably is slightly lower than the cost in 1961, but no information is available indicating what it was.

5. It should be noted that Soviet accounting typically fails to include all costs, especially all capital costs. For example, although amortization of capital investment used directly in gold mining is believed to be included in the cost figures cited, interest charges probably are not. Nor are many of the capital charges for improvement of the area believed to be included, some of which probably would be incurred by an American Company mining gold in comparable regions. The application of US accounting practice to Soviet mining of gold probably would raise the cost figures of gold mining in the USSR considerably above the figures shown in the table.

6. The average cost of producing some 5 million ounces of gold per year in the USSR is relatively high. This can be demonstrated by use of the current official rate of exchange of 1 ruble for US $1.11, which roughly approximates the average relationship of Soviet and US domestic prices. At this rate the cost of producing gold in the USSR would appear to be in excess of US $60 per troy ounce. It should be added, however, that assigning a dollar value to the cost of Soviet gold production can be misleading. Actually there is no such thing as a dollar cost of producing gold in the USSR just as there is not a ruble cost of producing gold in the US.

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7. Another and better way of indicating that gold is a high-cost commodity in the USSR is by comparing the ruble/dollar ratio of the cost of gold production with the ruble/dollar ratios for other commodities.

Commodity Groups	Ruble-Dollar Ratio* (1955 Prices)
1. Tin	4.8
2. Antimony	2.7
3. Lead (Ingots)	2.1
4. Gold	2
5. Zinc (Ingots)	1.1
6. Aluminum (Ingots)	0.9
7. Copper (refined)	0.8
8. Machinery for Investment Purpose (average)	0.4
9. Petroleum (refined)	0.35
10. Anthracite Coal	0.3

It is clear from the above data that the resource cost for gold production is very high compared to the resource cost for other raw materials and for manufactured machinery. For example, the ruble/dollar ratio for gold (in 1955 prices) was about 2 compared to the ruble/dollar ratio of 1.1 for zinc ingots. Thus the relative cost of gold was double the relative cost of zinc when relative cost in the USSR is expressed as comparative to relative cost in the United States. In other words, gold, tin, antimony, and lead are relatively expensive to produce in the Soviet Union compared to the United States while machinery, copper, aluminum, anthracite coal, and refined petroleum are relatively cheap.

8. One final point -- the above cost data for gold are average cost for all gold produced in the country as a whole. It can probably be assumed that if the USSR expands gold production rapidly, the cost of the additional units of output (marginal cost) will be above the present cost.

* The ruble/dollar ratios in the table are expressed in 1955 prices adjusted for the revaluation of the exchange rate in 1961, i.e., all decimal points were shifted one digit to the left.

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OTTO E. GUTHE
Assistant Director
Research and Reports

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